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Identifying Key Leadership Characteristics of IT Project Leaders

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ABSTRACT

Finding a strong project leader with effective management skills is critical to the successful implementation of information systems. Experience tells us that IT project leaders with superior leadership skills are able to take into account the unique challenges of managing technical employees. Yet, the key characteristics of leaders of technology projects are not well-understood. If these leadership characteristics can be defined, then it will be possible to select qualified IT project leaders and to secure the success of large-scale systems projects. The objective of this study is to contrast the leadership characteristics of project managers of successful vs. unsuccessful IT projects. These leadership behaviors will be measured using The *Leadership Practices Inventory* (Kouzes and Posner, 1999), which provides an individualized leadership profile for each respondent using a self-assessment and an observer assessment.

KEYWORDS

Project management, leadership, assessment.

INTRODUCTION

The Information Technology (IT) profession is experiencing structural change, largely of the implementation of large-scale commercial off-the-shelf software packages, global outsourcing of IT services, increasing deployment of automated network management tools, and an increasing reliance on vendor partnerships.

Many large IT projects experience significant time and cost overruns. In an international study of 7,400 IT projects, the Standish Group discovered that 34 per cent of the projects were late or over- budget, 31 per cent were abandoned, scaled back or modified, and only 24 per cent were completed on time and on budget (Cunningham, 1999). Examples of high profile IT project failures reported in the literature include the American Airlines Corporation AMR Information Services (AMRIS), London Ambulance System, the FoxMeyer Drug Co. SAP Project, and the California State Automated Child System (SACSS) (Sauer, 1993; Willcocks and Graeser, 2001).

In their study of firms that have implemented ERP systems, Mabert, et. al. reported that the majority of firms (55.5%) indicated that the actual cost of implementing an ERP system exceeded the original estimated budget by an average of 60.6% (Mabert, 2001). In 1996, drug distributor FoxMeyer claimed that its bungled ERP implementation drive it to bankruptcy. After spending $9 million on its SAP implementation, W.W. Grainger, Inc. argued that it lost $19 million in sales and $23 million in profits. In 1999, Hershey Foods Corp. experienced a significant drop in sales when its new ERP system could not keep pace with demand during the Halloween candy rush.

When large-scale IT projects fail, it is often because of management issues, as contrasted with technological issues. In their research on this point, Scott and Vessey indicate that "the majority of project failures do not stem from technology issues per se but from management issues surrounding implementation (Scott and Vessey, 2002). Researchers now recognize that

information systems project failures are more often caused by poor management, as compared with technological obstacles (Sauer, 1993).

Finding a strong project leader with effective management skills is critical to the successful implementation of these systems. Experience tells us that IT project leaders with superior leadership skills are able to take into account the unique challenges of managing technical employees. Yet, the key characteristics of leaders of technology projects are not well-understood. If these leadership characteristics can be defined, then it will be possible to select qualified IT project leaders and to secure the success of these large-scale ERP projects.

SCHOLARLY LITERATURE

In the IT field, technical leaders often get promoted to project management positions because of their technical expertise, not their leadership characteristics (Rosenbaum, 1991). When they become project managers, they often lack the interpersonal skills needed to manage and to motivate others. In fact, there is a widely held view that technical professionals are "nerds" and "geeks" and lack leadership capabilities. Some of the distinguishing characteristics of IT personnel are high job mobility, individualistic approach to work, association with absolutes, and intenseness (Peterson, 1987).

Leadership characteristics are important in managing technical projects, the literature shows. Weinberg (1986) compared the introduction of successful vs. unsuccessful systems, and found that the best technical leaders concentrated on defining the problem, resolving differences, welcoming constructive criticisms, and being open-minded. Studies of successful IT project managers point out success factors, such as the ability to manage people, stress, and communications (Geany, 1995; Bloom, 1996).

Leadership research regarding IT professionals has not given very much attention to proposing a leadership profile which takes into account the unique problems associated with managing technical professionals. In a study of the key characteristics of technical project leaders, Thite (1999) tested the applicability of the transformational leadership model developed by Bass and Avolio (1990) in a technical project environment. They found that managers of more successful IT projects exhibited transformational and technical leadership behaviors to a greater extent than managers of less successful projects. The population of information systems projects they studied were in Australian organizations. A study involving corporations in the United States would be a relevant next step.

Leadership is one of the most critical factors influencing IT project implementation success, and its importance increases with the size and complexity of the project. In today's companies, the successful implementation of enterprise resource planning projects, eBusiness projects, systems development projects, and infrastructure projects is critical because of the large investments in these projects. These projects require managers to address the dynamics of ever-changing technologies and the challenges of integrating these technologies.

Information technology projects represent unique challenges because of the characteristics of the IT workforce, the limitations of skill sets among IT project team members, and the dramatic pace of work. Decades ago, programmers provided the detailed design and coding, and trainers delivered customer training. Today's IT environment is fast-paced and often requires IT professionals to collaborate with technical specialists, end-users, and managers. The IT profession is typified by burnout, role conflict, and role ambiguity—all of which contribute to turnover and lack of organizational commitment (Guimaries and Igbaria, 1992; Igbaria and Guimares, 1999). The challenges of managing IT project teams are substantial.

MANAGING PROJECT RISKS

One set of factors influencing project outcomes are the various risks associated with initiating and implementing IT projects (Jiang and Klein, 2001). Lack of risk analysis and risk management during a project's life-cycle can contribute to failure (Willcocks and Griffiths, 1997). In a study by Baccarini, et. al. (2004), the respondents ranked 27 IT risks in terms of likelihood and consequences. The top five risks were: personnel shortfalls; unreasonable project schedule and budget; unrealistic expectations; incomplete requirements; and diminished window of opportunity due to late delivery of software.

Some risk factors are associated with organizational factors, including the extent of changes being proposed, sufficiency of resources, and magnitude of potential loss (Barki, Rivard, and Talbot, 1993). Project managers may have to address issues over which they have no control, such as changing scope/objectives and conflicts between user departments (Keil, Cule, Lyytinen, Schmidt, 1998). Lack of development expertise, lack of application-specific knowledge, and lack of user experience all contribute to project risk (Barki, Rivard, and Talbot, 1993; Ewusi-Mensah, 1997). Risk management entails project management processes, not technical processes. Project management, including scope management, quality management, and human resource management, is an effective risk management strategy.

In many cases, the success or failure of a troubled project depends on the effectiveness of management actions taken to turnaround or redirect such projects. This means that managers must be able to recognize problems and take appropriate corrective measures. Sometimes, de-escalation is needed in order to turn around a troubled project. In some cases, a troubled project can be abandoned. In their study of de-escalation strategies, Keil and Robey identified twelve specific factors associated with de-escalation and generated qualitative data from interviews with forty-two auditors to determine which of these factors were most effective in turning troubled projects around (Keil and Robey, 1999). The found many actors, such as senior managers, internal auditors, or external consultants, who were involved in triggering de-escalation of projects. Additionally, they learned that de-escalation was achieved both by managing existing resources better and by changing the level of resources committed to the project.

A study of the leadership characteristics of successful IT project managers would be important to both the academic and industry community, because it could provide a basis for the selection, training, and development of IT leaders. It would provide insight into the leadership characteristics which are essential in managing project risks, addressing organizational issues, resolving technological challenges, and handling people issues.

OBJECTIVES

The objective of this study is to contrast the leadership characteristics of project managers of successful vs. unsuccessful IT projects. The following hypothesis is developed for this study:

Managers of more successful IT projects will exhibit positive leadership behaviors to a greater extent than managers of less successful projects. These positive leadership behaviors will be measured by both a self-assessment and observer assessments.

RESEARCH METHODOLOGY

Research Sample

Project managers who are members of the PMI Chapters in St. Louis, Indianapolis, Bloomington (IL), and Kansas City will receive a letter describing the objectives of the study and asking for their participation. This total population consists of 1024 project managers. To date (e.g. March 1, 2005), 101 project managers have volunteered to participate in the leadership assessment process.

Research Instrument

The project managers will complete a "Self-Assessment" and will ask another individual to participate in an Observer Assessment. We will use the assessments which are part of the *Leadership Practices Inventory* developed by James M. Kouzes and Barry Z. Posner (1999). The *Leadership Practices Inventory* is a well-established 360 leadership assessment instrument which helps individuals and organizations measure their leadership competencies. It is based upon Kouzes' and Posner's Five Practices of Exemplary Leadership Model.

The Five Practices of Leadership are (1) Model the Way; (2) Inspire a Shared Vision; (3) Challenge the Process; (4) Enable Others to Act; and (5) Encourage the Heart. Specific items measuring leadership behaviors within each of these categories are illustrated in Table 1:

Leadership Practice	Items Measuring the Leadership Practice
Model the Way	I set a personal example of what I expect of others. I spend time an energy making certain that the people I work with adhere to the principles and standards we have agreed on. I follow through on promises and commitments that I make. I ask for feedback on how my actions affect other people's performance. I build consensus around a common set of values for running our organization. I am clear about my philosophy of leadership.
Inspire a Shared Vision	I talk about future trends that will influence how our work gets done. I describe a compelling image of what our future could be like. I appeal to others to share an exciting dream of the future. I show others how their long-term interests can be realized by enlisting in a common vision. I paint the "big picture" of what we aspire to accomplish. I speak with genuine conviction about the higher meaning and purpose of our work.
Challenge the Process	I seek out challenging opportunities that test my own skills and abilities. I challenge people to try out new and innovative ways to do their work. I search outside the formal boundaries of my organization for innovative ways to improve what we do. I ask "What can we learn" when things don't go as expected. I make certain that we set achievable goals, make concrete plans, and establish measurable milestones for the projects and programs that we work on. I experiment and take risks, even when there is a chance of failure.
Enable Others to Act	I develop cooperative relationships among people I work with. I actively listen to diverse points of view. I treat others with dignity and respect. I support the decisions that people make on their own. I give people a great deal of freedom and choice in deciding how to do their work. I ensure that people grow in their jobs by learning new skills and developing themselves.
Encourage the Heart	I praise people for a job well done. I make it a point to let people know about my confidence in their abilities. I make sure that people are creatively rewarded for their contributions to the success of our projects. I publicly recognize people who exemplify commitment to shared values. I find ways to celebrate accomplishments. I give members of the team lots of appreciation and support for their contributions.

Table 1: Leadership Behaviors

DATA ANALYSIS

The *Leadership Practices Inventory* provides an individualized leadership profile for each respondent. The findings will provide a leadership profile which describes the leadership characteristics of the IT project managers. We will conduct a factor analysis to determine if the leadership characteristics measured by the Leadership Practices Inventory are consistent with the leadership behaviors of the IT project managers. In addition, we will compare the leadership characteristics of the IT project managers responsible for successful projects vs. less-successful projects using a variety of statistical techniques. The successful vs. the unsuccessful IT projects will be partitioned based upon planned vs. actual time of completion and planned vs. actual project cost.

IMPLICATIONS

The analysis of leadership characteristics that contribute to project success will useful in a number of ways. First, leadership assessments can be used to identify individuals who have the behaviors consistent with effective project leadership. Second, leadership assessments can be used as a tool to identify leadership behaviors which need to be developed by individuals who aspire to be project leaders. Third, the leadership assessment process will expand the definition of project management to project leadership by incorporating behaviors which go beyond the traditional project management professional (as defined by PMP certification). The PMP certification provides the basic tools and techniques for effective project management. Beyond that, it may be important for project managers to gain the leadership behaviors which will be defined in the assessment process.

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